

Amendments to the Claims

The following listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently amended): Filtering cartridge comprising:
 - a filtering pack $[(3)]$ formed by a ~~flat~~-filtering medium $[(10)]$;
 - a tubular sheath $[(2)]$ with a perforated wall, surrounding said filtering pack ~~(3)~~ medium; and
 - two respective thermoplastic end caps ~~(5, 6)~~, in each of which there is embedded a portion of said filtering pack $[(3)]$ situated along one of its edges, and in each of which there is embedded a portion of said sheath $[(2)]$ situated along one of its edges $[(33)]$;
 - characterised in that:
 - at least one said end cap ~~(5, 6)~~ has a first disc ~~(16, 16')~~ and a second disc ~~(17, 17')~~, placed one above the other, each made from thermoplastic;
 - ~~it is in the~~ said second disc ~~(17, 17')~~ that the has said portion of the filtering pack $[(3)]$ and $[(the)]$ said sheath portion ~~(2)~~ are embedded;
 - $[(the)]$ said first disc ~~(16, 16')~~ has a peripheral rim ~~(19, 19')~~ which surrounds $[(the)]$ said portion of the sheath $[(2)]$; and
 - $[(the)]$ said sheath $[(2)]$ has a shoulder $[(34)]$ opposite the edge of the said rim ~~(19, 19')~~ of the first disc ~~(16, 16')~~.
2. (Currently amended): ~~Cartridge~~ The cartridge according to Claim 1, ~~characterised wherein~~ in that said portion of the sheath $[(2)]$ forms part of a neck $[(32)]$ thinner than the rest of the wall of the sheath $[(2)]$.

3. (Currently amended): ~~Cartridge~~ The cartridge according to Claim ~~[[2]]~~ 1, ~~characterized in~~ wherein said portion of the sheath forms part of a neck thinner than the rest of the wall of the sheath and ~~[[that]]~~ said neck ~~[[32]]~~ has a thickness which increases ~~[[as]]~~ from the edge ~~[[33]]~~ of the sheath ~~[[2]]~~.
4. (Currently amended): ~~Cartridge~~ The cartridge according to ~~either one of Claims 2 or 3~~ Claim 1, ~~characterized in that~~ wherein said portion of the sheath forms part of a neck thinner than the rest of the wall of the sheath and said neck ~~[[32]]~~ is situated between the edge ~~[[33]]~~ and said shoulder ~~[[34]]~~ of the sheath ~~[[2]]~~.
5. (Currently amended): ~~Cartridge~~ The cartridge according to Claim ~~[[4]]~~ 1, ~~characterised in that~~ wherein the edge ~~[[33]]~~ of the sheath ~~[[2]]~~ extends from an internal surface, situated in continuity with the general internal surface of the sheath ~~[[2]]~~, to a frustoconical surface ~~[[36]]~~ which extends from the edge ~~[[33]]~~ to said shoulder ~~[[34]]~~, which extends from said frustoconical surface ~~[[36]]~~ to the general external surface of the sheath ~~[[2]]~~.
6. (Currently amended): ~~Cartridge~~ The cartridge according to ~~any one of Claims 1 to 5~~ Claim 1, ~~characterised in that~~ wherein said rim (19, 19') of the first disc (16, 16') extends projecting from a plate (18, 18').
7. (Currently amended): ~~Cartridge~~ The cartridge according to Claim 6, ~~characterised in that~~ 1, wherein the thickness of said rim (19, 19') increases ~~[[as]]~~ from its edge ~~[[35]]~~.

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8. (Currently amended): ~~Cartridge~~ The cartridge according to Claim 7, ~~characterised in that 1, wherein~~ the edge of said rim (19, 19') extends from an external lateral surface, having substantially the same diameter as the general external surface of the sheath [(2)], to a frustoconical surface extending from this rim to said plate (18, 18').
9. (Currently amended): ~~Cartridge~~ The cartridge according to ~~any one of Claims 1 to 8, characterised in that~~ Claim 1, wherein said shoulder [(34)] on the sheath [(2)] and the edge [(35)] of said rim (19, 19') has substantially the same width.
10. (Currently amended): ~~Cartridge~~ The cartridge according to ~~any one of Claims 1 to 9, characterised in that~~ Claim 1, wherein said rim (19, 19') faces said portion of the sheath [(2)] embedded in the second disc (17, 17') through a surface [(37)] which is frustoconical.
11. (Currently amended): ~~Cartridge~~ The cartridge according to ~~any one of Claims 1 to 10, characterised in that~~ Claim 1, wherein said portion of the sheath [(2)] embedded in the second disc (17, 17') faces said rim (19, 19') through a surface [(36)] which is frustoconical.
12. (Currently amended): ~~Cartridge~~ The cartridge according to ~~any one of Claims 1 to 11, characterised in that~~ Claim 1, wherein said portion of the sheath [(2)] embedded in the second disc (17, 17') and said rim (19, 19') face each other through a respective frustoconical surface (36, 37), said respective frustoconical surfaces (36, 37) being similar.
13. (Currently amended): ~~Cartridge~~ The cartridge according to ~~any one of Claims 1 to 12, characterised in that~~ Claim 1, wherein said rim (19, 19') has interruptions [(20)].

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14. (Currently amended): ~~Cartridge~~ The cartridge according to Claim ~~13~~, ~~characterised in that~~ 1, wherein said rim has interruptions and said interruptions ~~[(20)]~~ are disposed at regular intervals and each extends over an arc with the same angle at the apex.
15. (Currently amended): ~~Cartridge~~ The cartridge according to Claim 14, ~~characterised in that~~ 1, wherein said rim has interruptions and said rim (19, 19') has four said interruptions ~~[(20)]~~ each extending over an arc whose angle at the apex is approximately 30°.
16. (Currently amended): ~~Cartridge~~ The cartridge according to ~~any one of Claims 1 to 15, characterised in that~~ Claim 1, wherein said first disc (16, 16') has, opposite to said second disc(17, 17'), an annular rib(21, 21').
17. (Currently amended): ~~Cartridge~~ The cartridge according to ~~any one of Claims 1 to 16, characterised in that~~ Claim 1, wherein at least one said end cap ~~[(6)]~~ having a first disc (16') and a second disc (17') placed one above the other, has a central orifice ~~[(22)]~~.
18. (Currently amended): ~~Cartridge~~ The cartridge according to Claim ~~17~~, ~~characterised in that~~ Claim 1, wherein the first disc (16') of the cap (6) ~~having~~ has a central orifice (22), ~~and~~ and has a rim (19A) around said central orifice ~~[(22)]~~.
19. (Currently amended): ~~Cartridge~~ The cartridge according to ~~any one of Claims 1 to 18, characterised in that~~ Claim 1, wherein the first disc of the cap having a central orifice, has a rim around said central orifice, it also comprises a tubular core ~~[(4)]~~ with a perforated wall, surrounded by said filtering medium ~~pack (3)~~ and having, along at least one edge ~~[(40)]~~, a portion embedded in said second disc(17, 17').

20. (Currently amended): ~~Cartridge~~ The cartridge according to ~~Claim 19,~~
~~characterised in that~~ Claim 1, wherein each said portion of the core ~~[(4)]~~
forms part of a neck ~~[(38)]~~ which is thinner than the rest of the core ~~[(4)]~~.
21. (Currently amended): ~~Cartridge~~ The cartridge according to ~~Claim 20,~~
~~characterised in that~~ 1, wherein the edge ~~[(40)]~~ of the core ~~[(4)]~~ extends
from an internal surface, situated in continuity with the general internal
surface of the core ~~[(2)]~~ to a frustoconical surface ~~[(39)]~~ which extends
from the edge ~~[(40)]~~ to the general external surface of the core ~~[(4)]~~.
22. (Currently amended): ~~Cartridge~~ The cartridge according to ~~any one of Claims~~
~~1 to 21, characterised in that~~ Claim 1, wherein the melt flow rate at 230°C and
under 2.16 kg, according to the ASTM D1238 or ISO 1133 test method, is
lower for the material of the first disc ~~(16, 16')~~ than for the material of the
second disc ~~(17, 17')~~.
23. (Currently amended): ~~Cartridge~~ The cartridge according to ~~Claim 22,~~
~~characterised in that~~ Claim 1, wherein said melt flow rate is no more than 15
g per 10 minutes for the material of the first disc ~~(16, 16')~~.
24. (Currently amended): ~~Cartridge~~ The cartridge according to ~~Claim 23,~~
~~characterised in that~~ Claim 1, wherein said melt flow rate of the first disc ~~(16,~~
~~16')~~ is between 4.2 and 6.5 g per 10 minutes.
25. (Currently amended): ~~Cartridge~~ The cartridge according to ~~any one of Claims~~
~~22 to 24, characterised in that~~ Claim 1, wherein said melt flow rate of the
second disc ~~(17, 17')~~ is between 25 and 100 g per 10 minutes.

26. (Currently amended): ~~Cartridge~~The cartridge according to ~~Claim 25,~~
~~characterised in that Claim 1, wherein~~ said melt flow rate of the second disc
(17, 17') is between 65 and 75 g per 10 minutes.
27. (Currently amended): ~~Cartridge~~The cartridge according to ~~any one of Claims~~
~~1 to 26, characterised in that Claim 1, wherein~~ said end cap (5, 6) comprising a
first disc (16, 16') and a second disc (17, 17') is moulded by bi-injection.
28. (Currently amended): ~~Cartridge~~The cartridge according to Claim 27,
~~characterised in that 1, wherein~~ said second disc (17, 17') is moulded onto
said first disc (16, 16').
29. (Currently amended): ~~Cartridge~~The cartridge according to ~~any one of Claims~~
~~1 to 28, characterised in that Claim 1, wherein~~ said first disc (16, 16') and said
second disc (17, 17') are made from polypropylene.
30. (Currently amended): ~~Cartridge~~The cartridge according to ~~Claim 29,~~
~~characterised in that Claim 1, wherein~~ said first disc (16, 16') is made from a
homopolymer polypropylene ~~whilst~~ while the second disc (17, 17') is made
from a copolymer polypropylene.
31. (Currently amended): ~~Cartridge~~The cartridge according to ~~any one of Claims~~
~~1 to 30, characterised in that Claim 1, wherein~~ said [[flat]] filtering medium
(10) ~~forming said~~ forms a filtering pack (3) ~~comprises containing~~ a filtering
membrane [[(11)]] and two support layers (14A, 14B) sandwiching said
membrane.

32. (Currently amended): ~~Cartridge~~ The cartridge according to ~~Claim 31,~~
~~characterised in that Claim 1,~~ wherein said filtering medium ~~[(10)]~~ also
comprises a thermoplastic ribbon ~~[(12)]~~ disposed in the vicinity of each edge
~~[(13)]~~ of said medium ~~membrane (11).~~
33. (Currently amended): ~~Cartridge~~ The cartridge according to ~~either one of~~
~~Claims 31 or 32,~~ characterised in that Claim 1, wherein said filtering medium
is at least a membrane which is made from polyvinylidene fluoride (PVDF).
34. (Currently amended): ~~Cartridge~~ The cartridge according to ~~any one of Claims~~
~~31 to 33,~~ characterised in that Claim 1, wherein said filtering medium
contains one or more support layers, said one or more support layers are made
from thermoplastic.
35. (Currently amended): ~~Cartridge~~ The cartridge according to ~~any one of Claims~~
~~31 to 34,~~ characterised in that Claim 1, wherein said layers ~~(14A, 14B)~~ and a
thermoplastic ribbon ~~[(12)]~~ disposed in the vicinity of each edge ~~[(13)]~~ of
said medium ~~membrane (11)~~ are made from polypropylene.
36. (Currently amended): ~~Cartridge~~ The cartridge according to ~~any one of Claims~~
~~31 to 35,~~ characterised in that Claim 1, wherein each said end cap ~~(5, 6)~~ has a
said first disc ~~(16, 16')~~ and a said second disc ~~(17, 17')~~, and cooperates in a
similar fashion with the sheath ~~[(2)]~~ and the filtering medium ~~pack (3).~~